JP2270-T6260660

FIG. 1

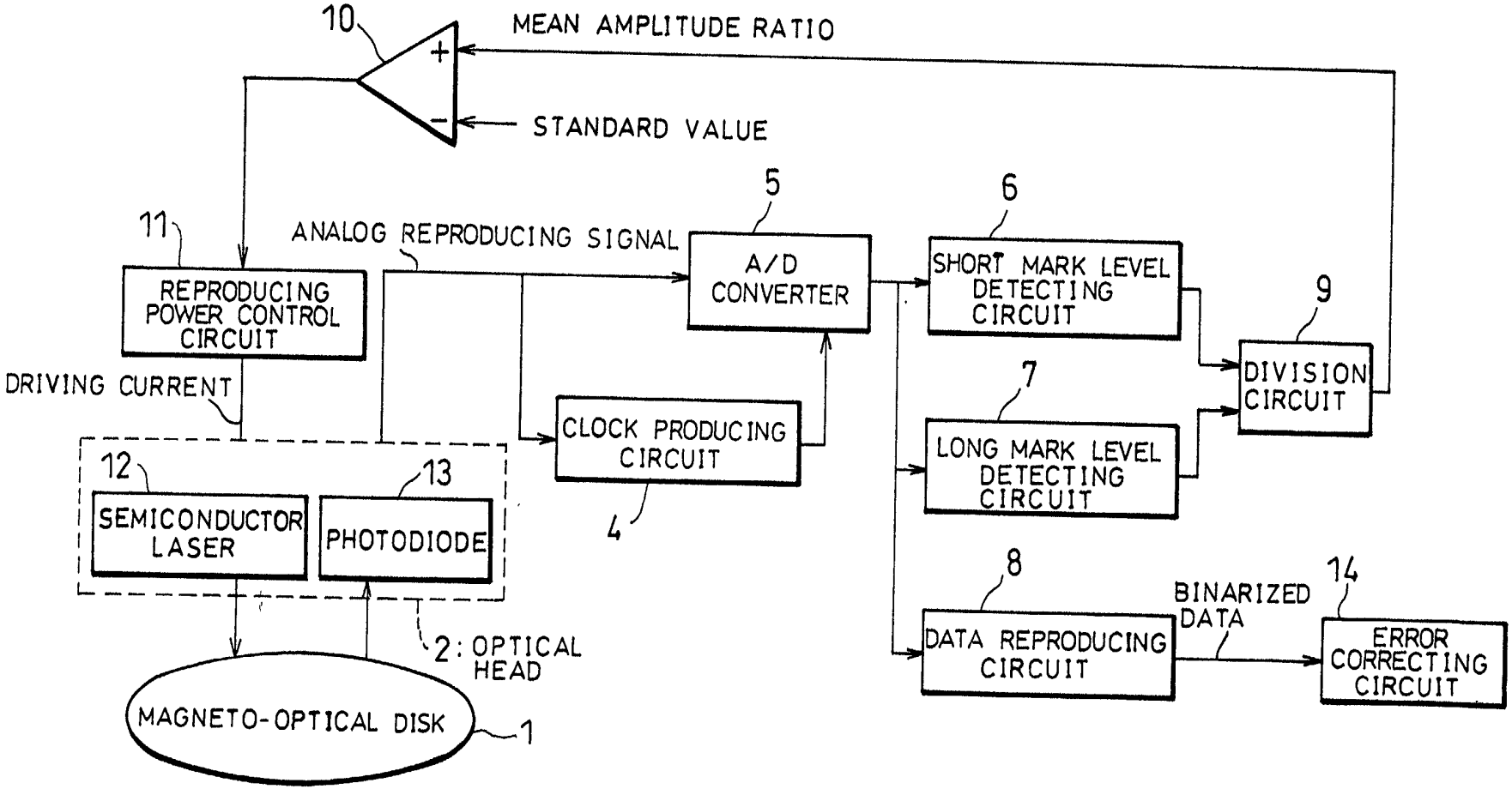


FIG. 2

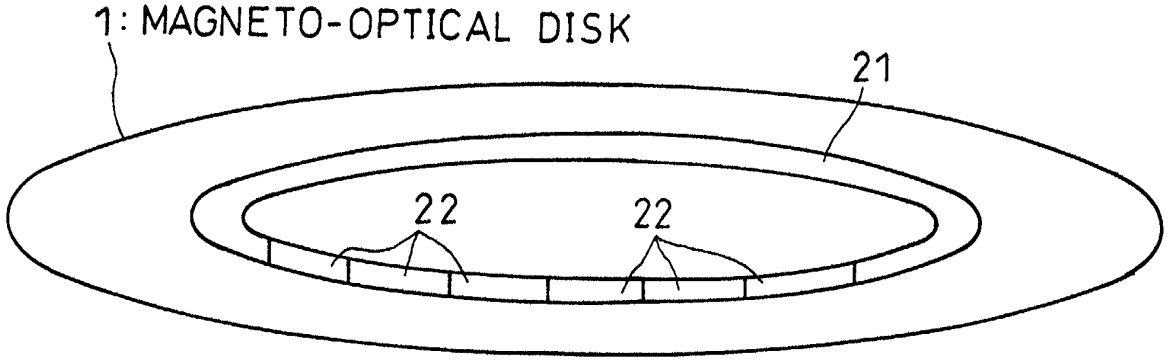

1: MAGNETO-OPTICAL DISK
21
22
22

FIG. 3

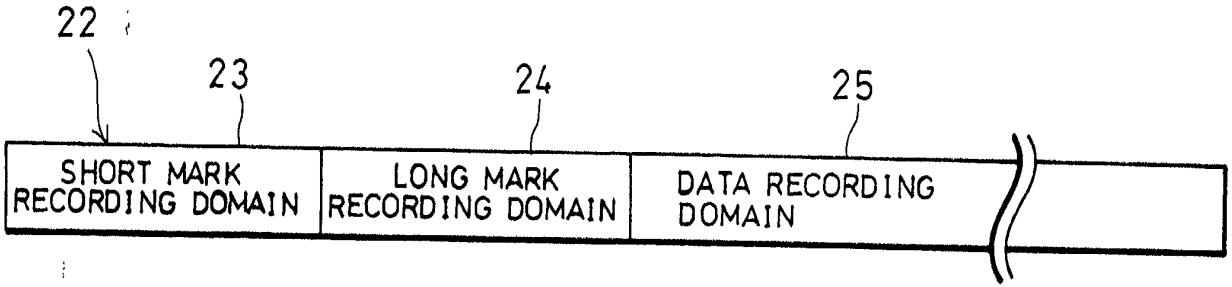
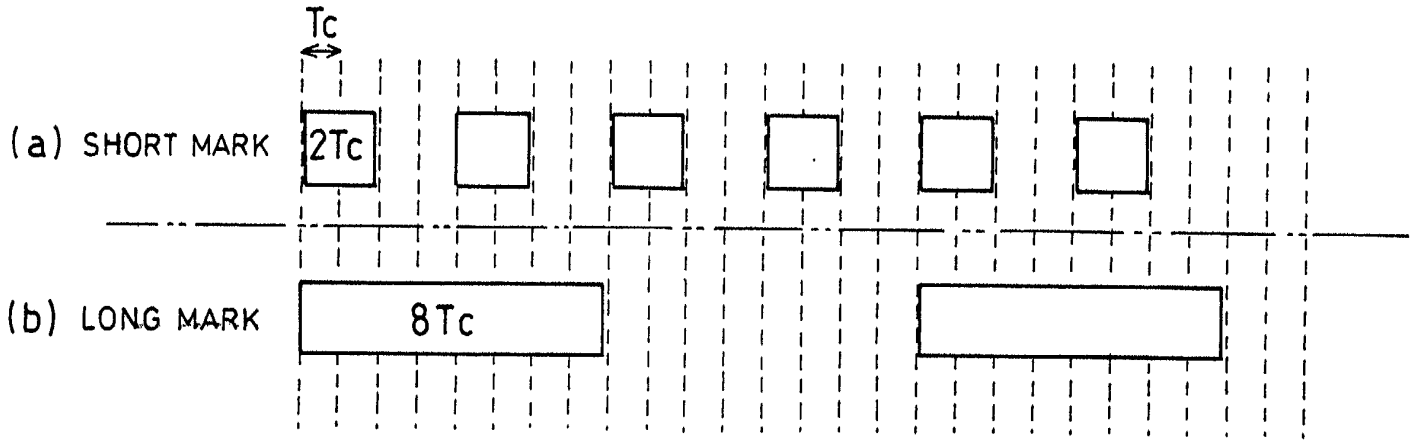

22
23
24
25
SHORT MARK RECORDING DOMAIN
LONG MARK RECORDING DOMAIN
DATA RECORDING DOMAIN

FIG.4



EUROPEAN PATENT OFFICE

FIG. 5

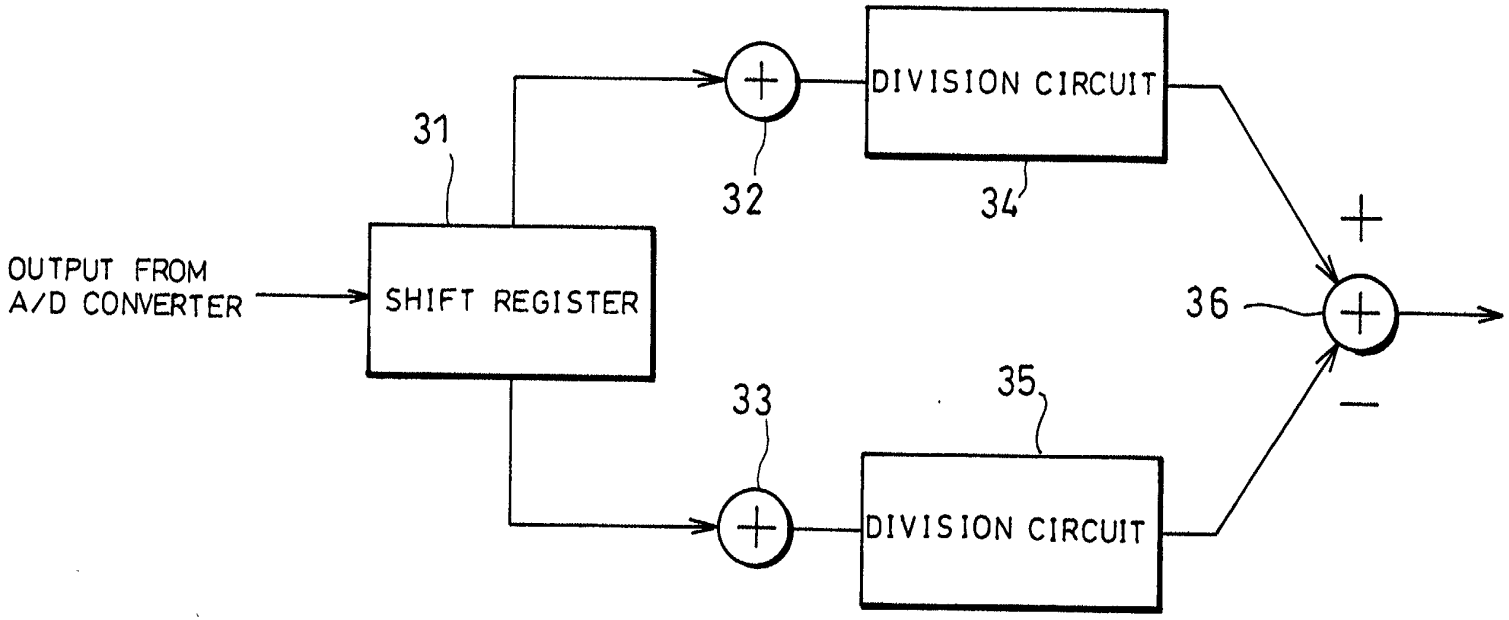
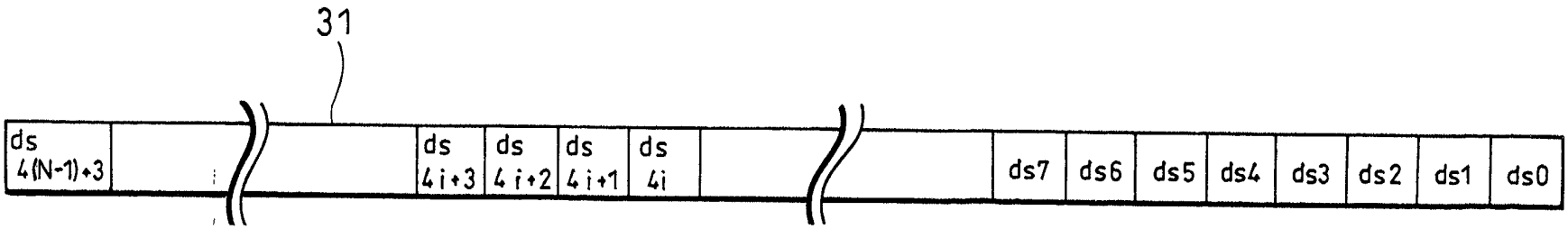


FIG. 6



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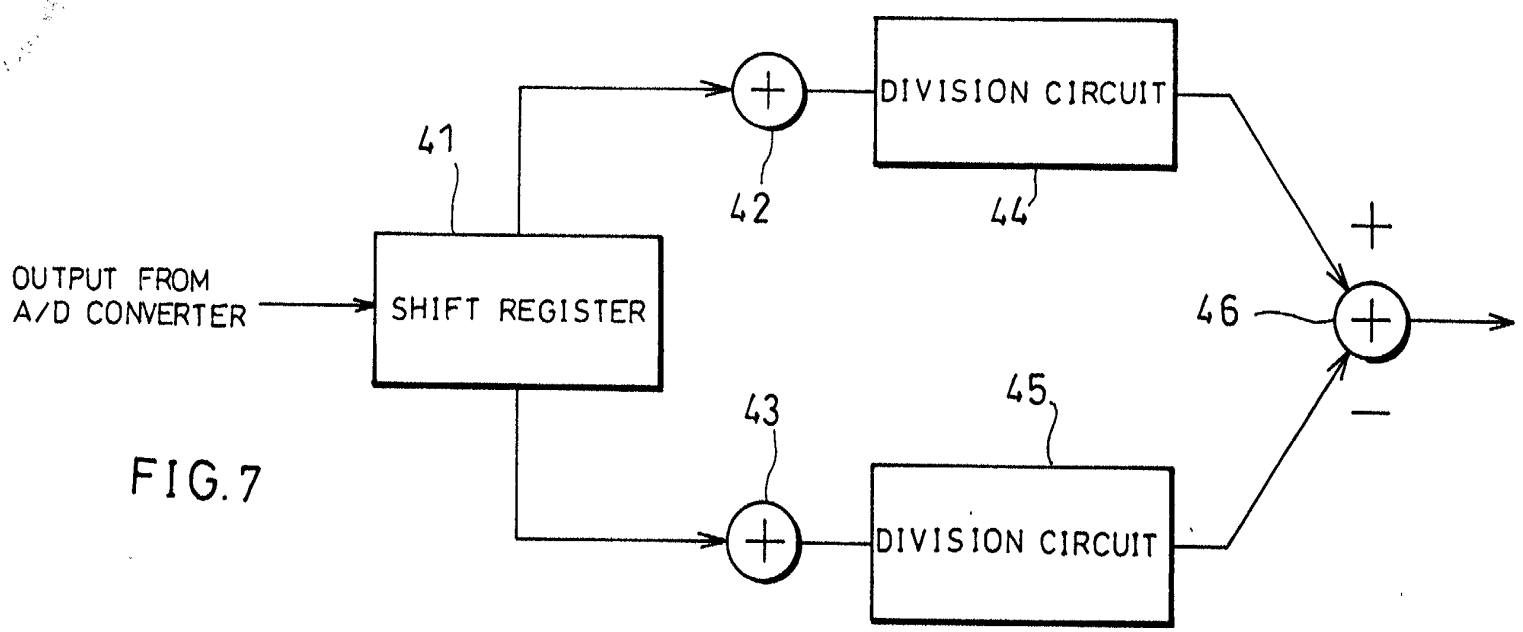

FIG. 7

FIG. 8

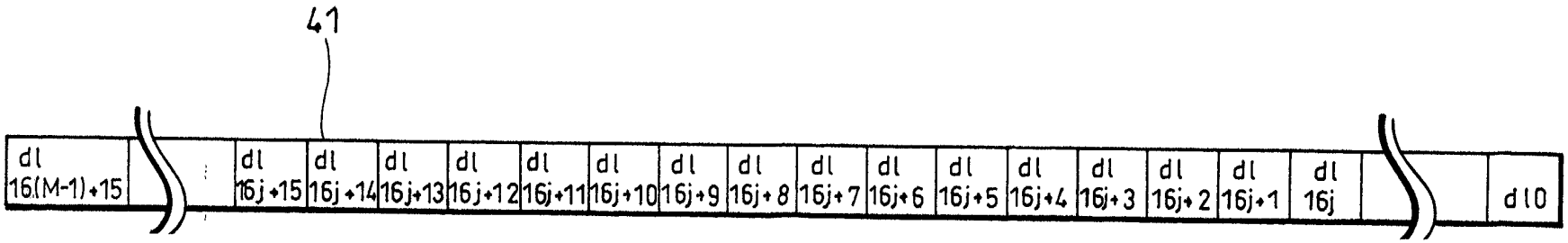

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FIG. 9

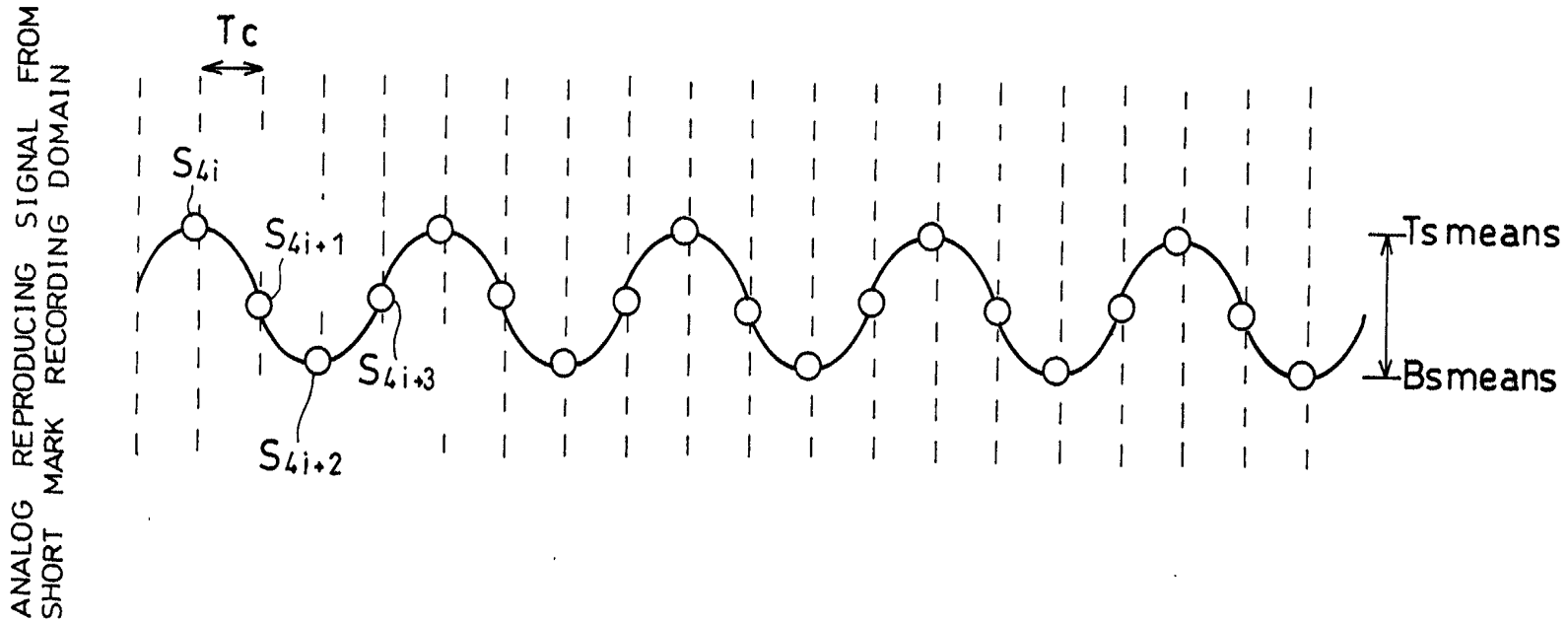


FIG.10

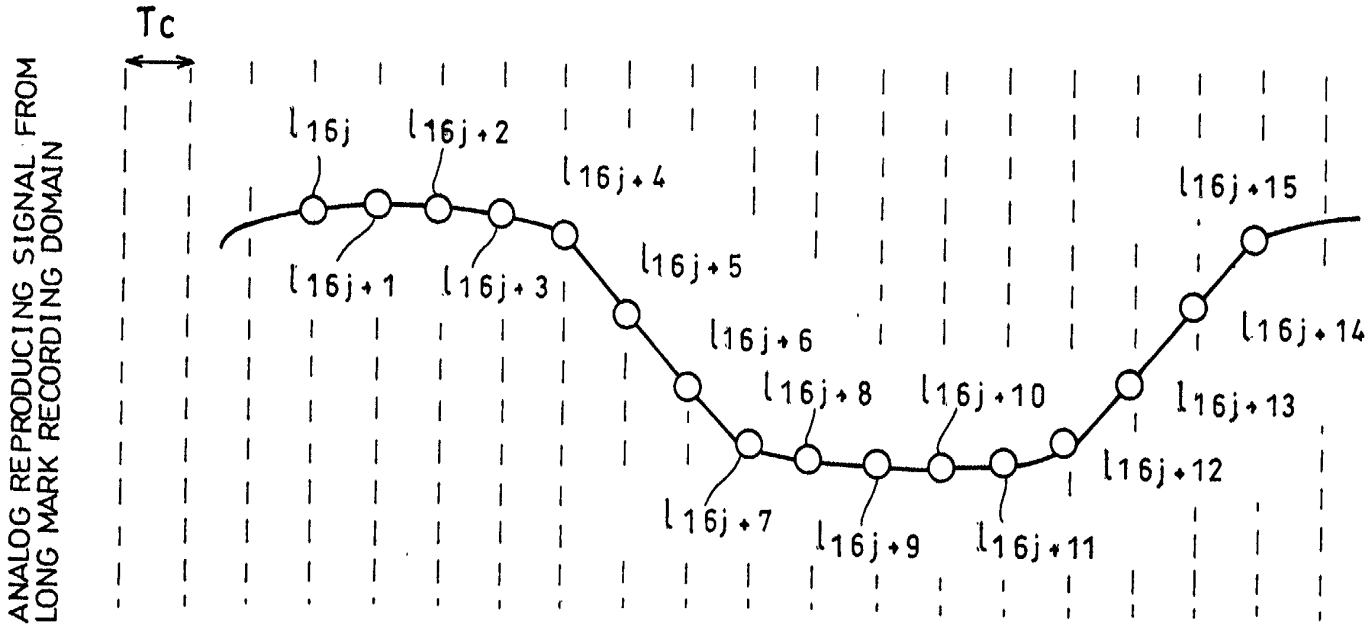

Tc
ANALOG REPRODUCING SIGNAL FROM LONG MARK RECORDING DOMAIN
l16j
l16j+1
l16j+2
l16j+3
l16j+4
l16j+5
l16j+6
l16j+7
l16j+8
l16j+9
l16j+10
l16j+11
l16j+12
l16j+13
l16j+14
l16j+15

FIG. 11

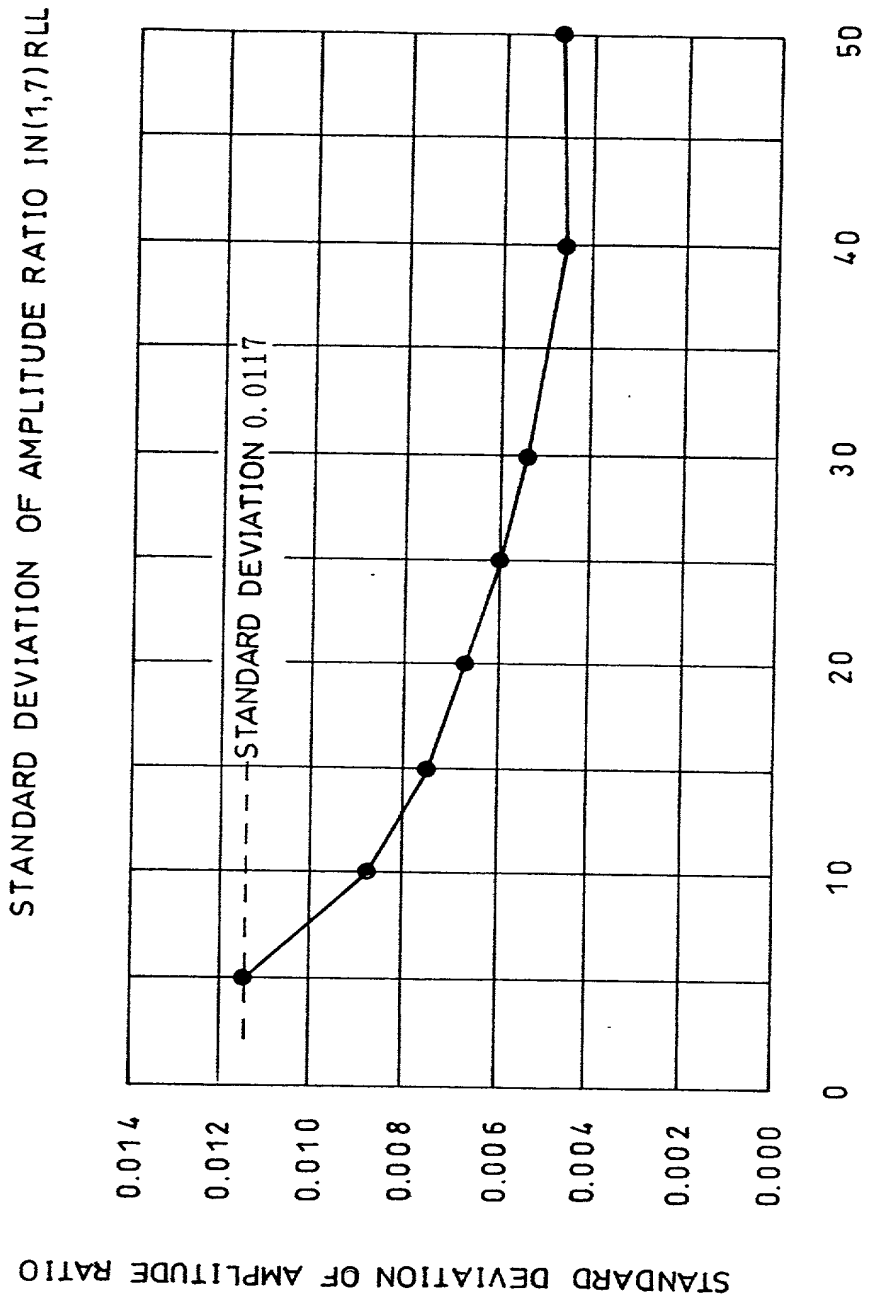

STANDARD DEVIATION OF AMPLITUDE RATIO IN(1,7)RLL
STANDARD DEVIATION 0.0117
STANDARD DEVIATION OF AMPLITUDE RATIO
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
0
10
20
30
40
50
MEAN NUMBER OF BYTES K

FIG.12

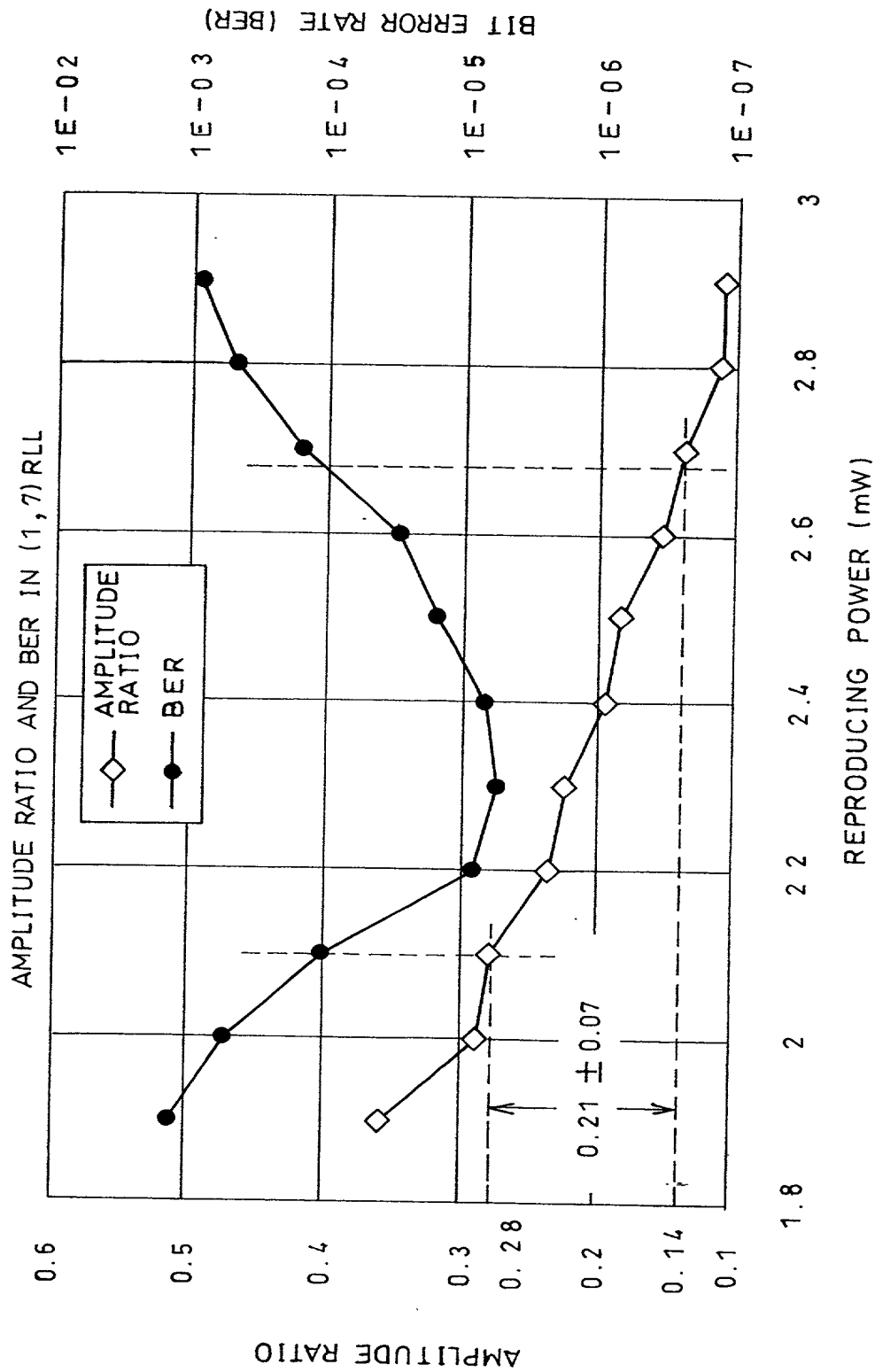
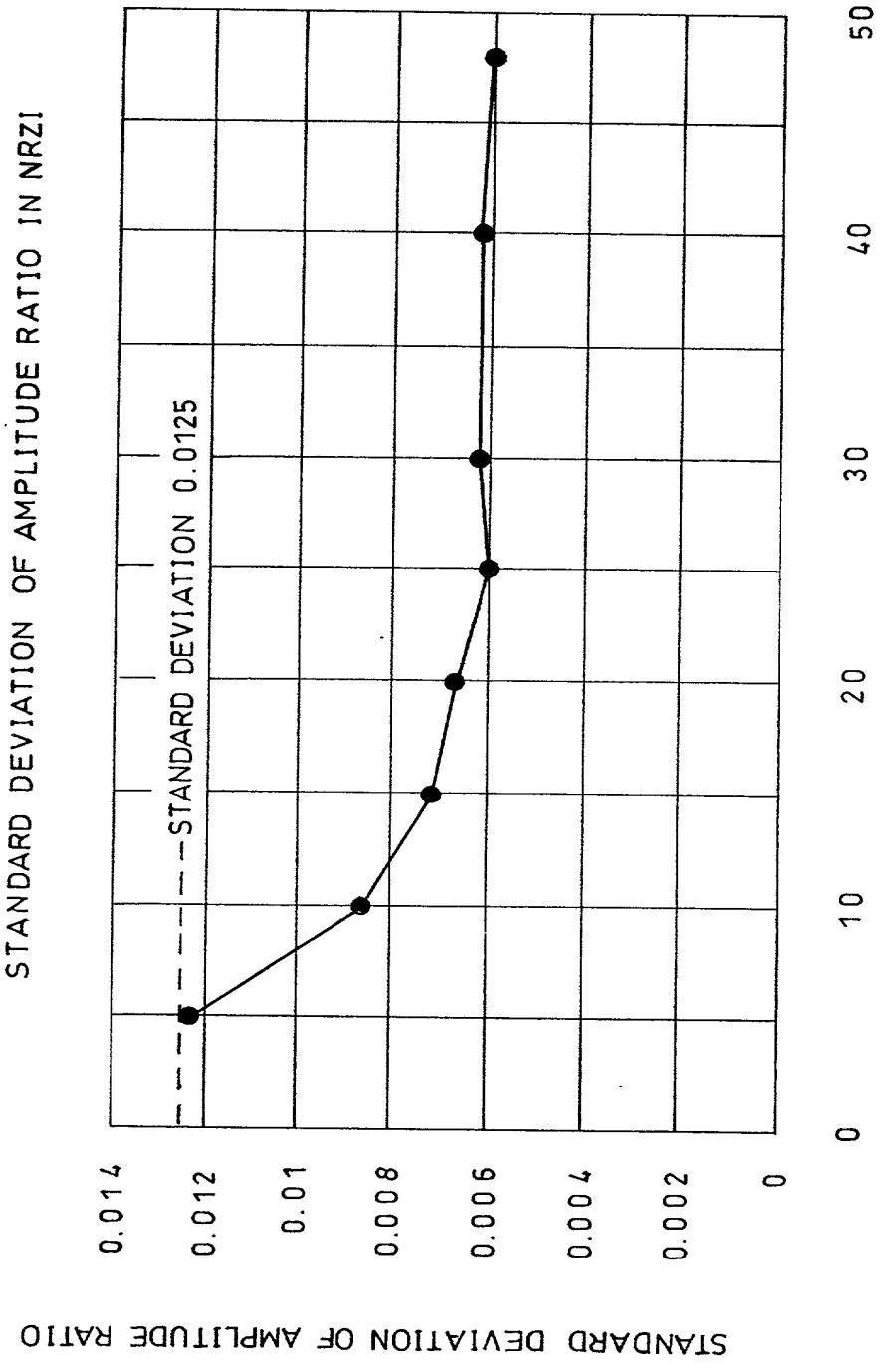

AMPLITUDE RATIO AND BER IN (1,7) RLL
AMPLITUDE RATIO
BER
BIT ERROR RATE (BER)
1E-02
1E-03
1E-04
1E-05
1E-06
1E-07
0.6
0.5
0.4
0.3
0.28
0.2
0.14
0.1
0.21 ± 0.07
1.8
2
2.2
2.4
2.6
2.8
3
REPRODUCING POWER (mW)
AMPLITUDE RATIO

FIG.13


STANDARD DEVIATION OF AMPLITUDE RATIO IN NRZI
STANDARD DEVIATION 0.0125
STANDARD DEVIATION OF AMPLITUDE RATIO
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0
10
20
30
40
50
MEAN NUMBER OF BYTES K'

JP 2002-170260 A 2002.06.14

FIG.14

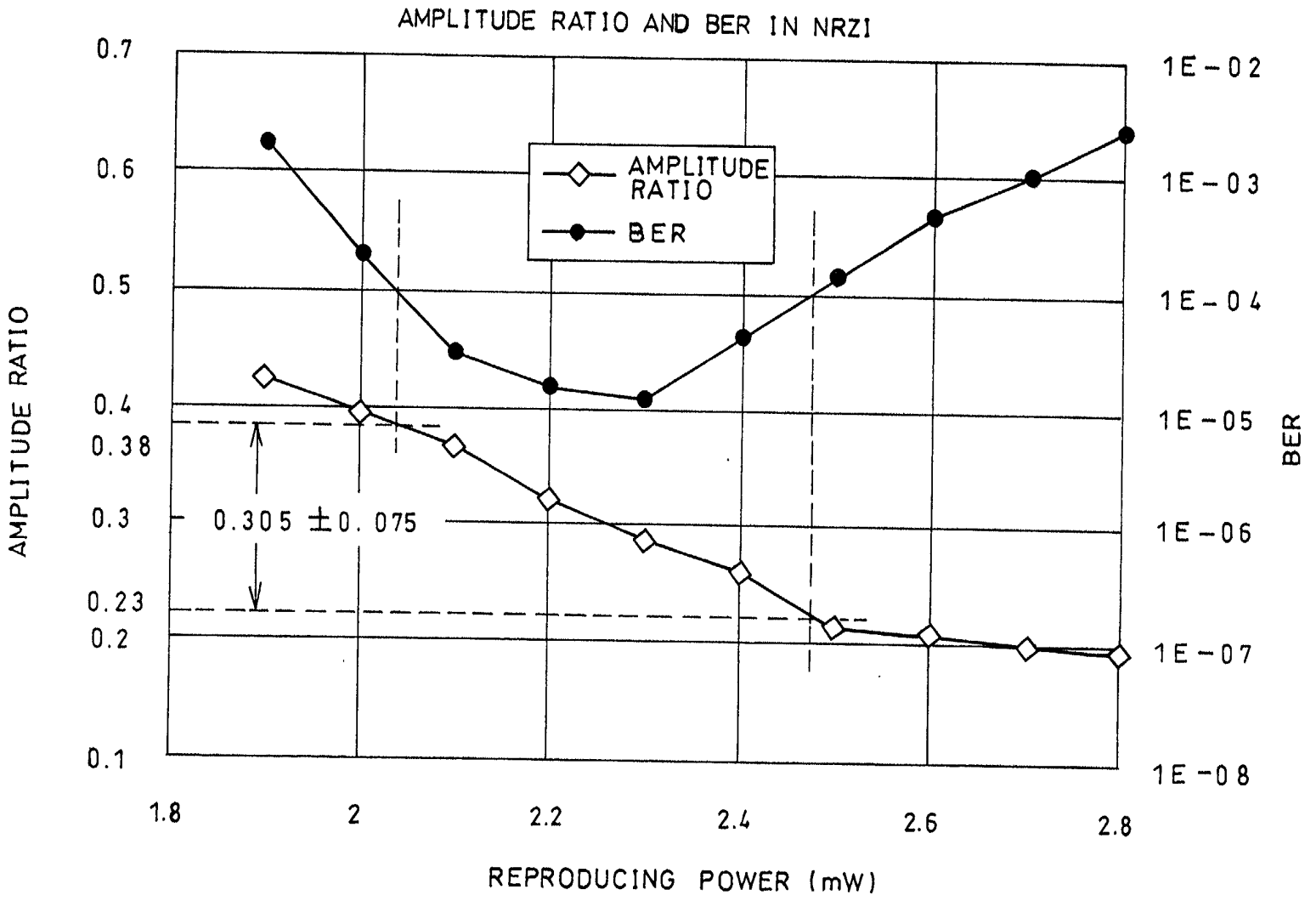


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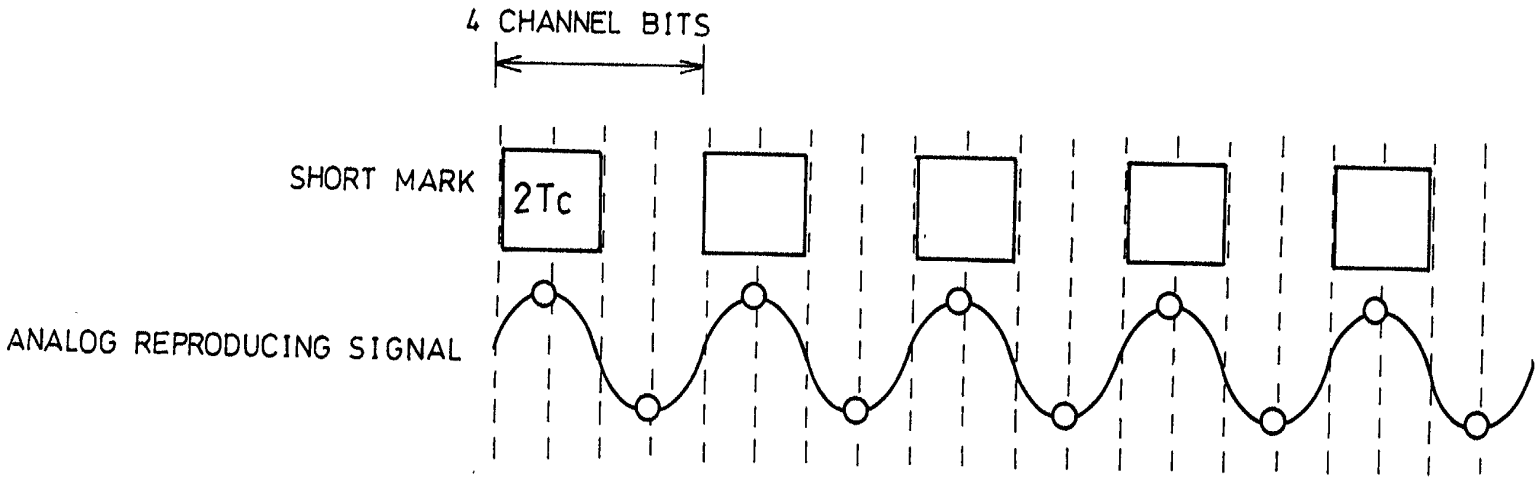
FIG.15



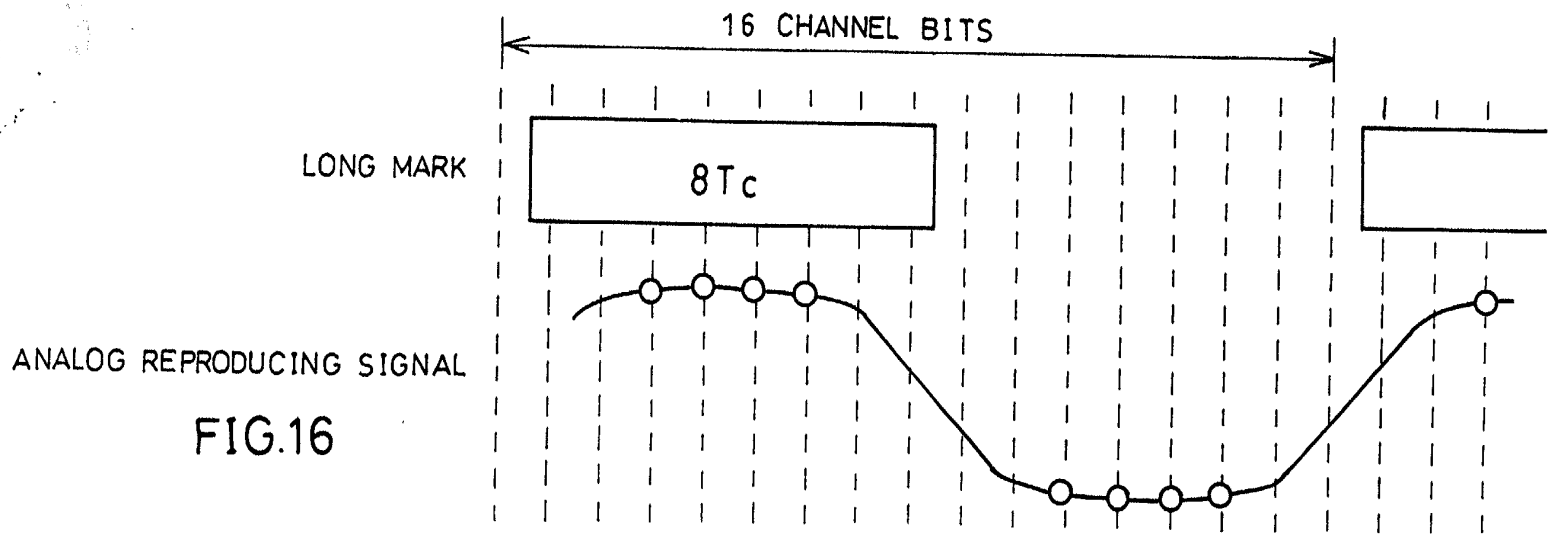

16 CHANNEL BITS
LONG MARK
8Tc
ANALOG REPRODUCING SIGNAL

FIG.16

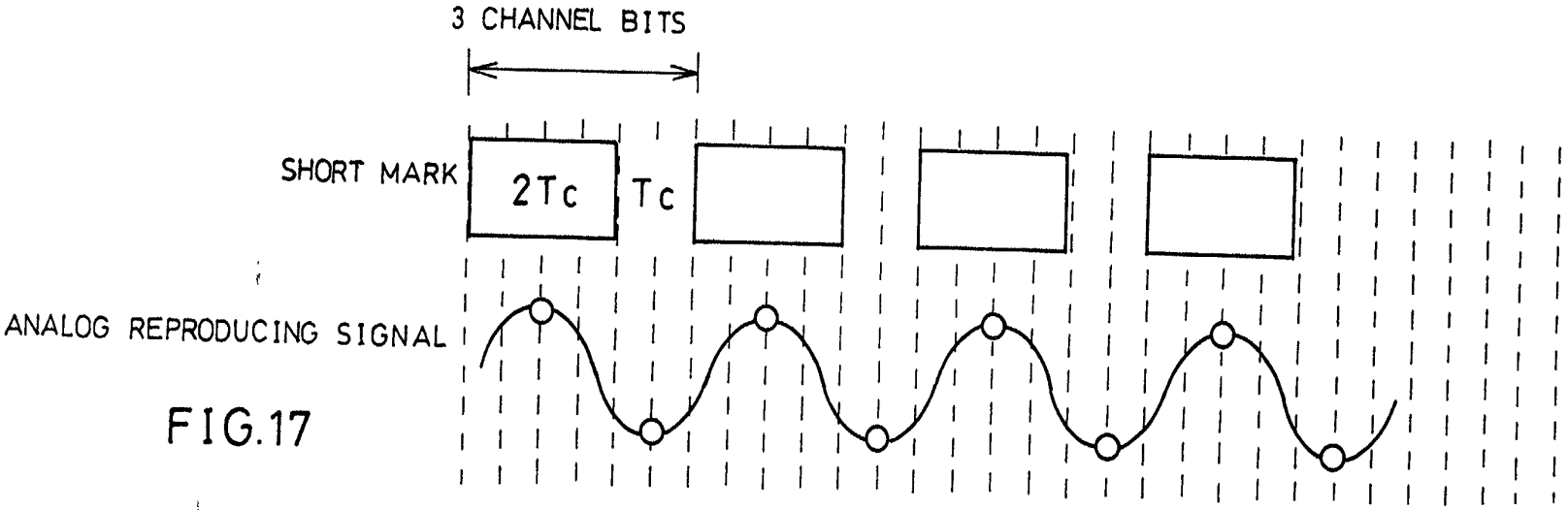

3 CHANNEL BITS
SHORT MARK
2Tc
Tc
ANALOG REPRODUCING SIGNAL

FIG.17

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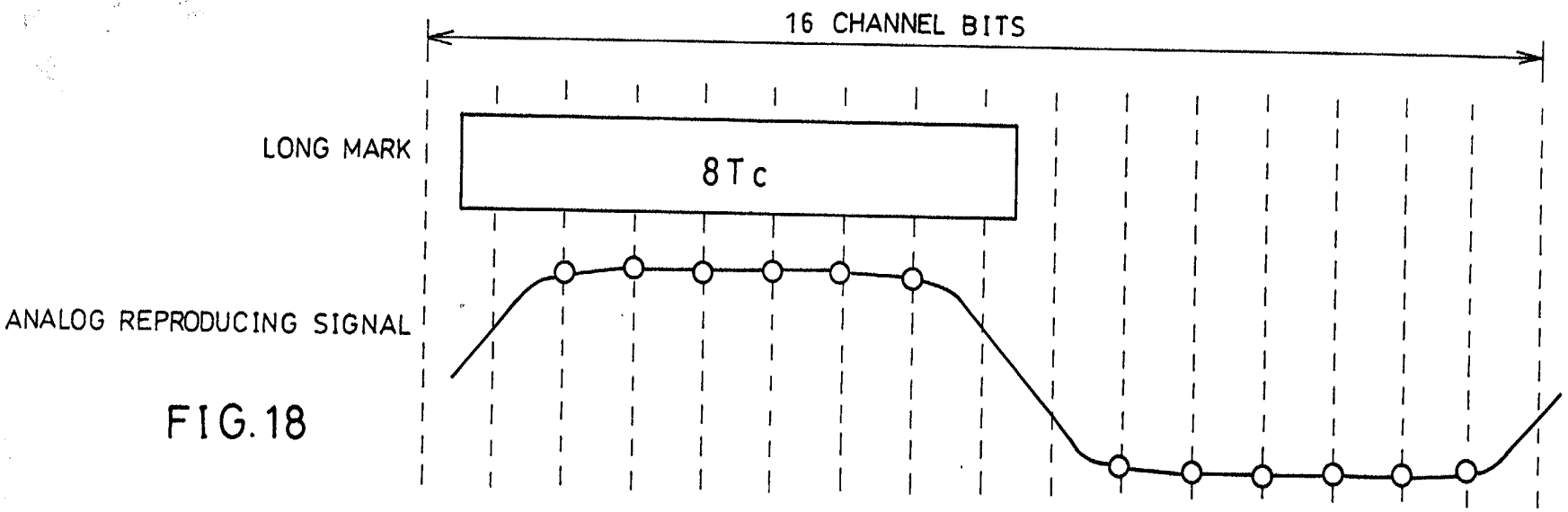
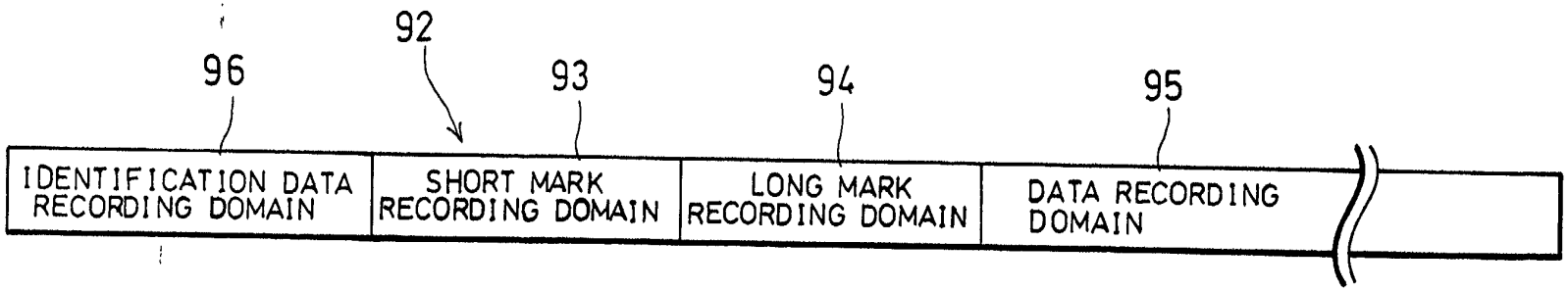


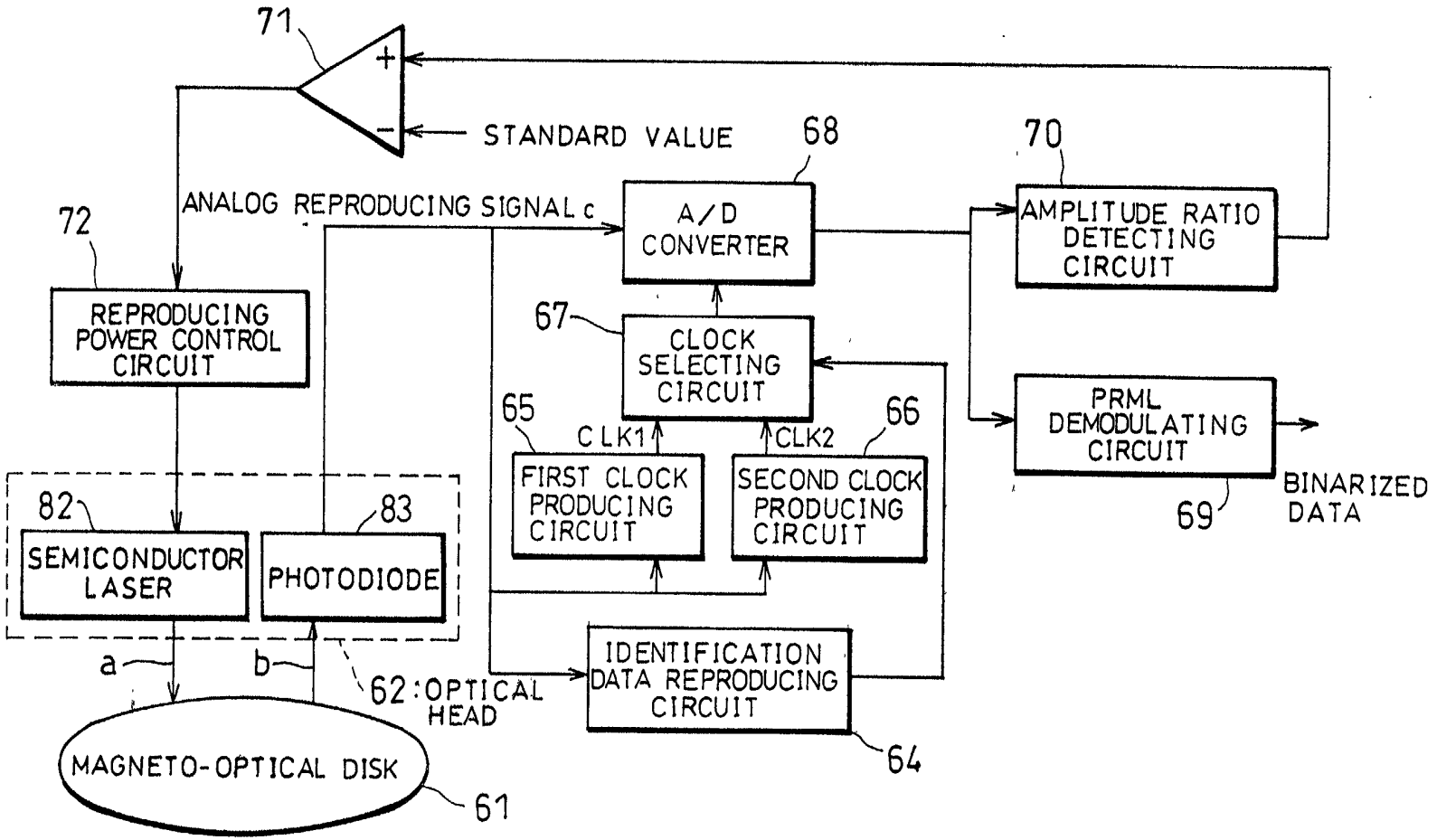
FIG. 18

FIG. 21



JP 2023-76660 A

FIG. 19



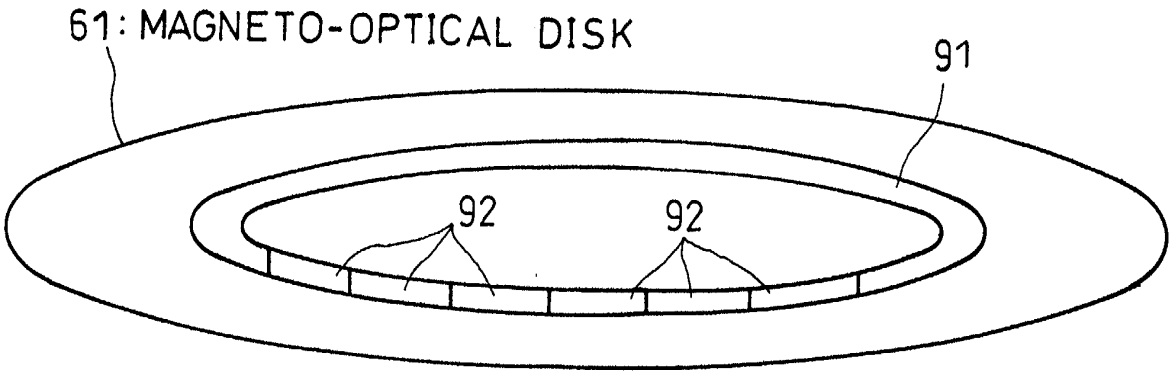

61: MAGNETO-OPTICAL DISK
91
92
92

FIG. 20

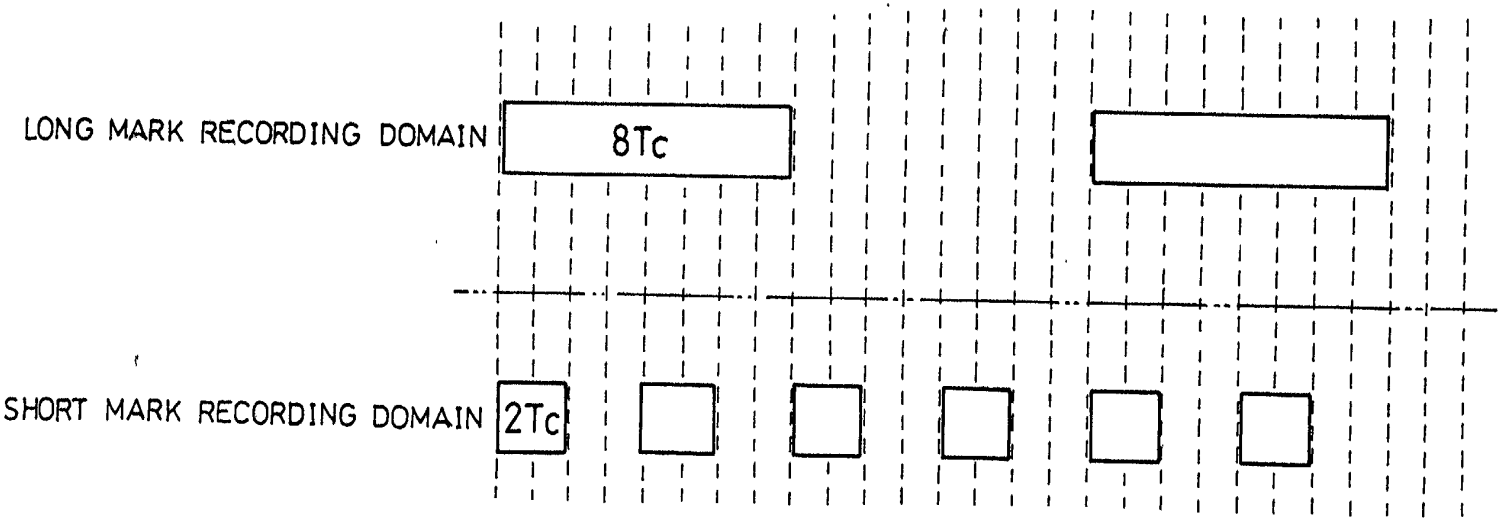

LONG MARK RECORDING DOMAIN
8Tc
SHORT MARK RECORDING DOMAIN
2Tc

FIG. 22

FIG. 23

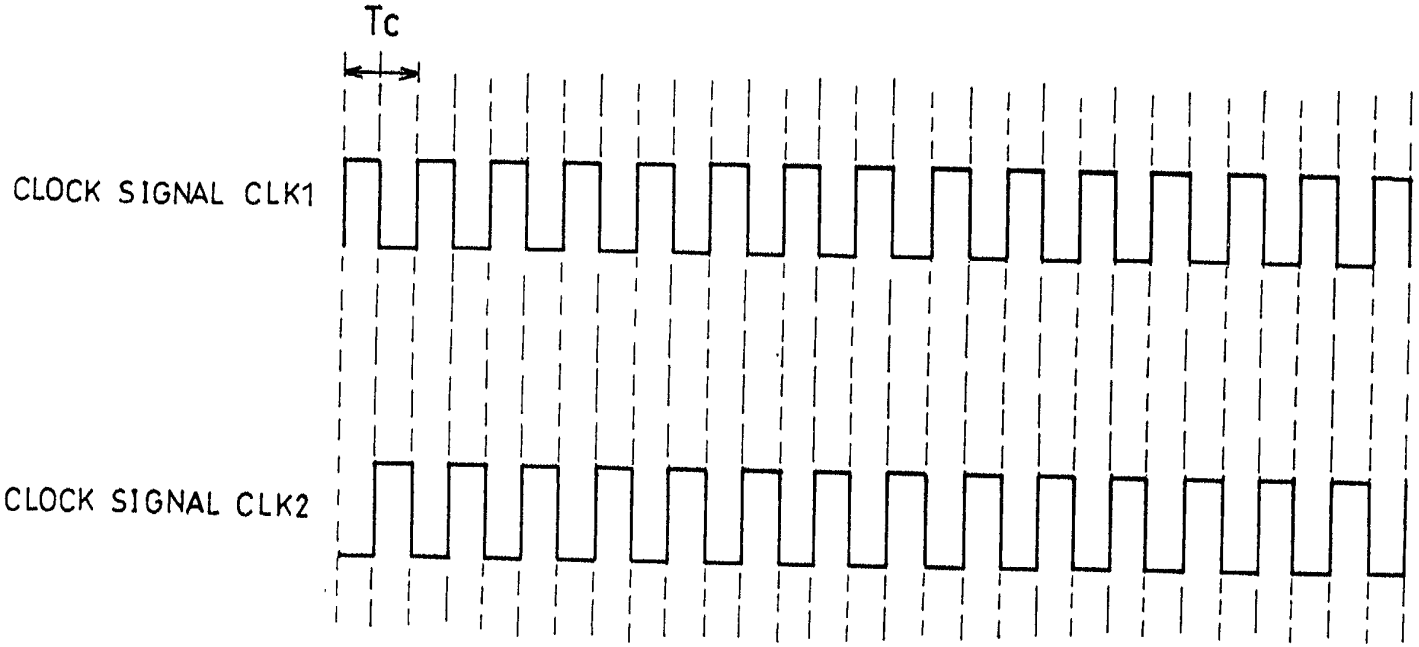


FIG. 24

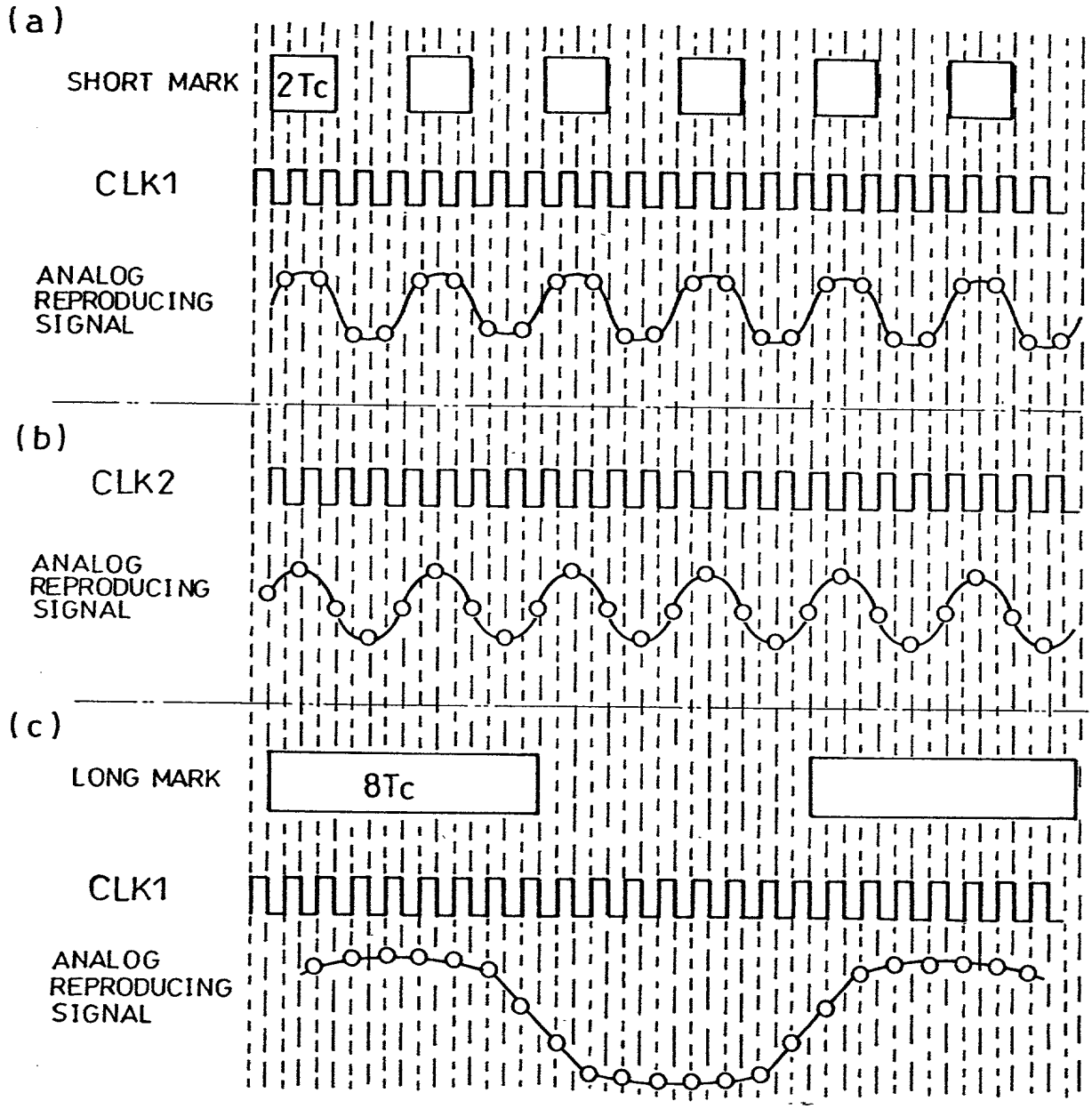

(a)
SHORT MARK
2Tc
CLK1
ANALOG REPRODUCING SIGNAL
(b)
CLK2
ANALOG REPRODUCING SIGNAL
(c)
LONG MARK
8Tc
CLK1
ANALOG REPRODUCING SIGNAL

FIG.25

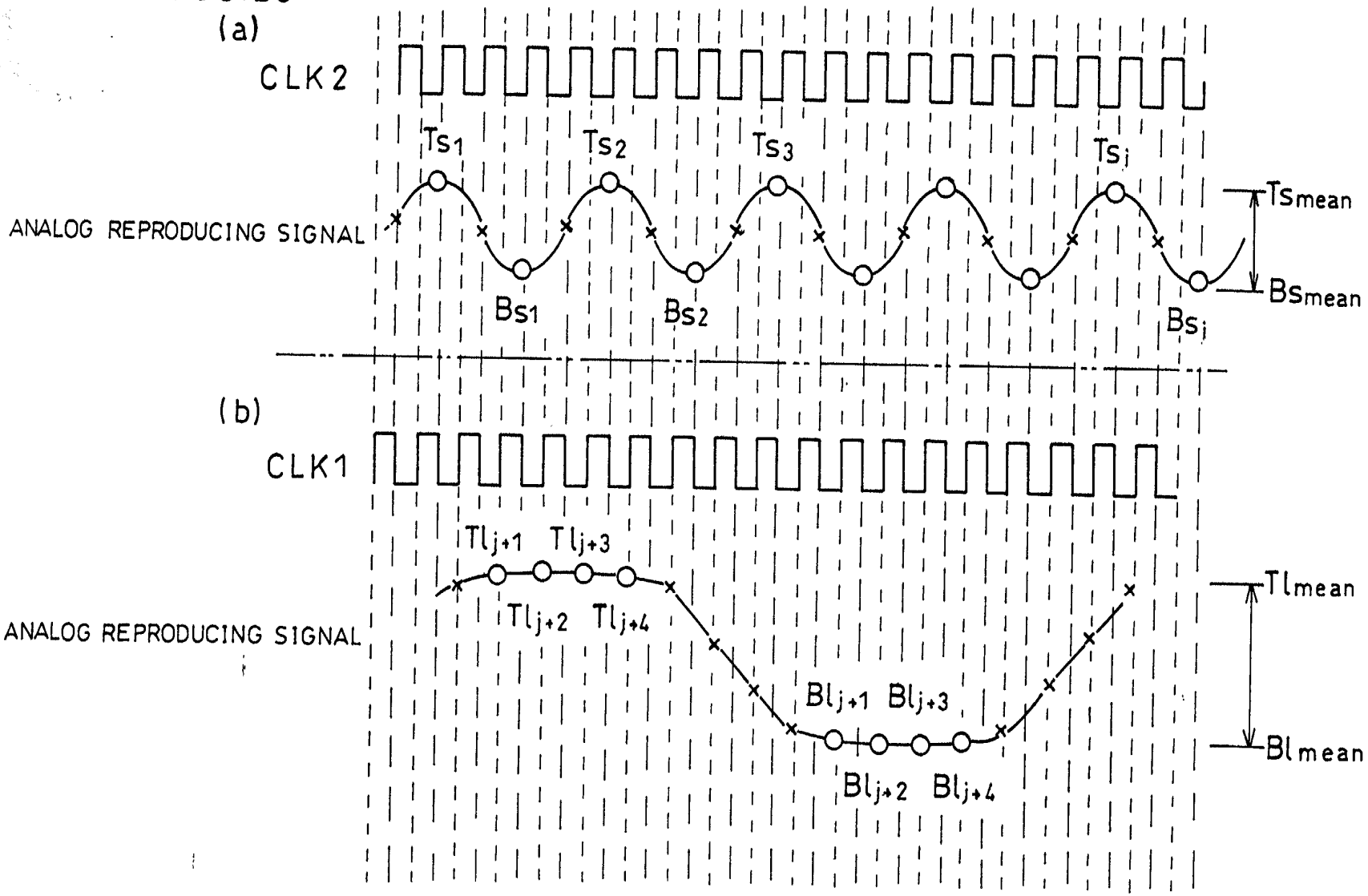

(a)
CLK2
Ts1
Ts2
Ts3
Tsj
ANALOG REPRODUCING SIGNAL
Tsmean
Bsmean
Bs1
Bs2
Bsj
(b)
CLK1
Tlj+1 Tlj+3
Tlj+2 Tlj+4
ANALOG REPRODUCING SIGNAL
Tlmean
Blmean
Blj+1 Blj+3
Blj+2 Blj+4

FIG. 26

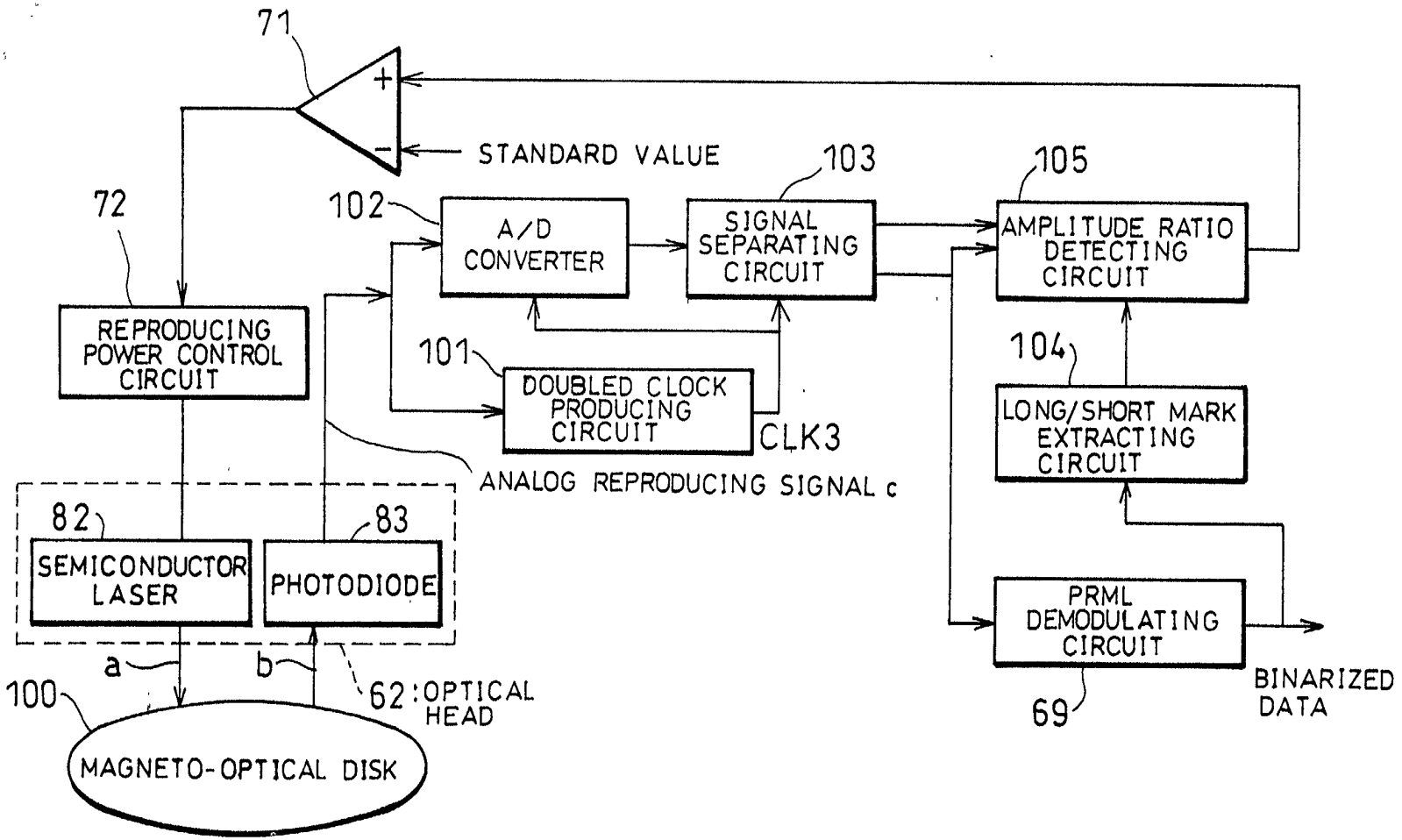

71
+
−
STANDARD VALUE
72
102
A/D CONVERTER
103
SIGNAL SEPARATING CIRCUIT
105
AMPLITUDE RATIO DETECTING CIRCUIT
REPRODUCING POWER CONTROL CIRCUIT
101
DOUBLED CLOCK PRODUCING CIRCUIT
CLK3
104
LONG/SHORT MARK EXTRACTING CIRCUIT
ANALOG REPRODUCING SIGNAL c
82
83
SEMICONDUCTOR LASER
PHOTODIODE
PRML DEMODULATING CIRCUIT
a
b
62 : OPTICAL HEAD
100
MAGNETO-OPTICAL DISK
69
BINARIZED DATA

FIG. 27

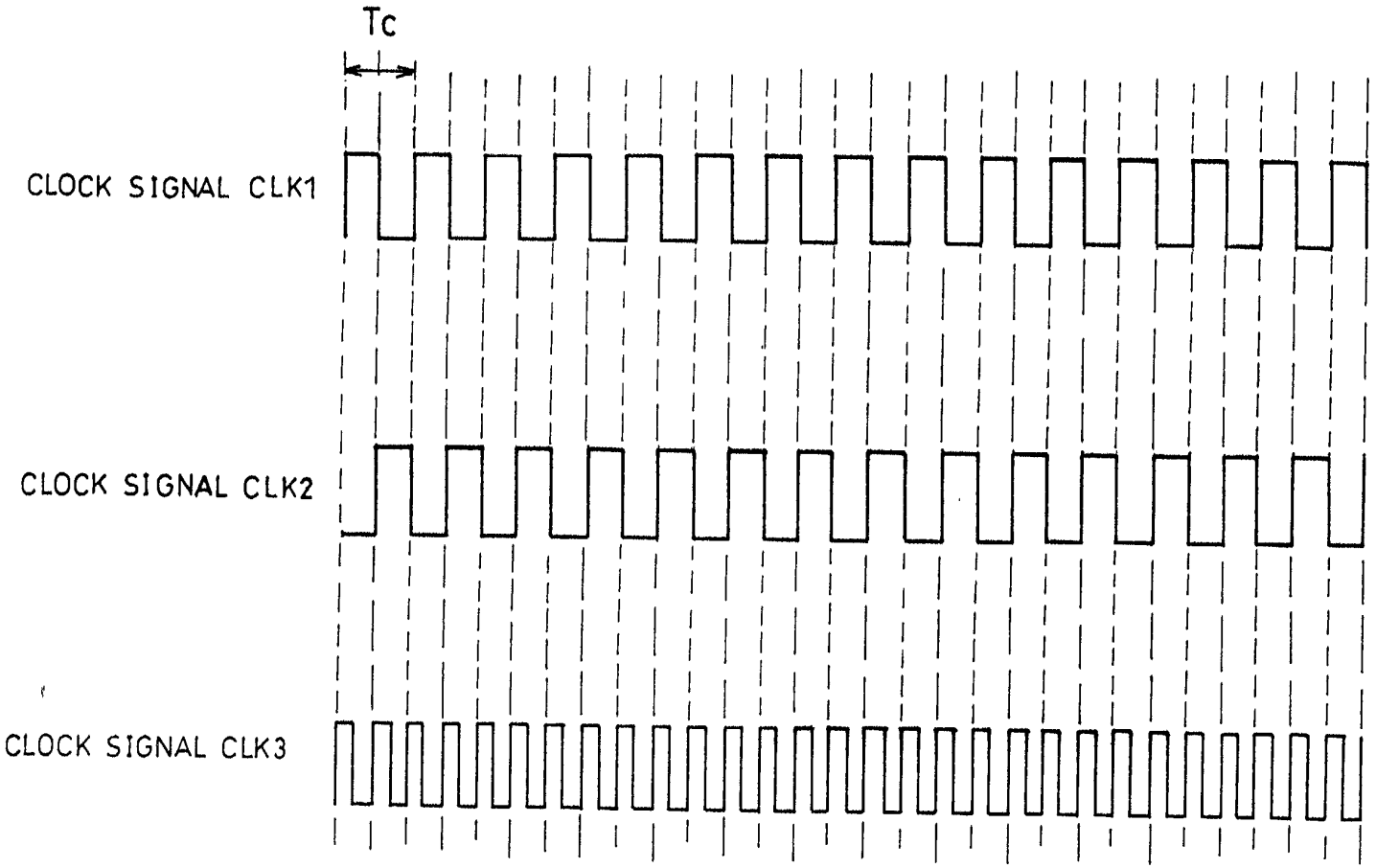


FIG.28

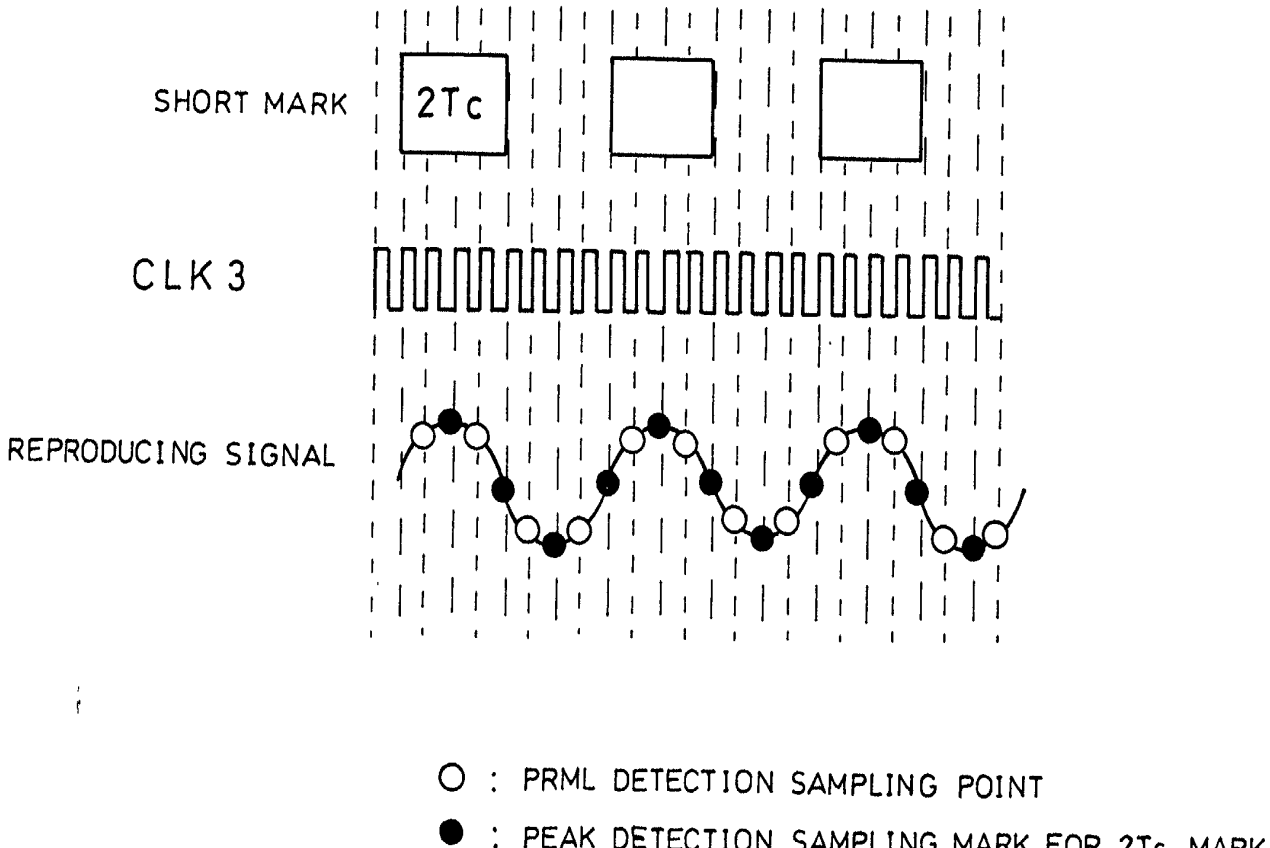

SHORT MARK
2Tc
CLK 3
REPRODUCING SIGNAL
○ : PRML DETECTION SAMPLING POINT
● : PEAK DETECTION SAMPLING MARK FOR 2Tc MARK

FIG. 29

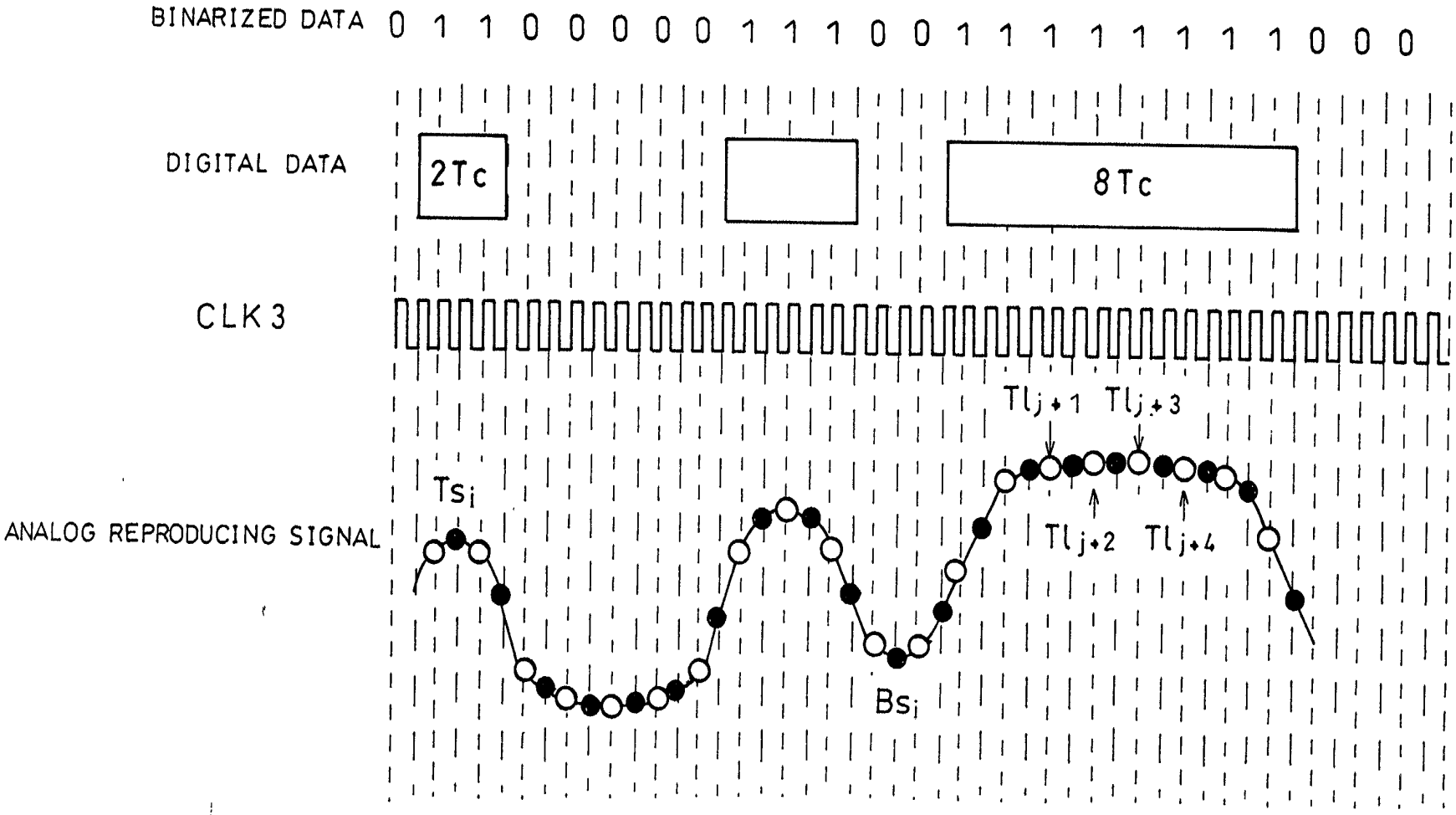

BINARIZED DATA
0 1 1 0 0 0 0 0 1 1 1 0 0 1 1 1 1 1 1 1 1 0 0 0
DIGITAL DATA
2Tc
8Tc
CLK3
ANALOG REPRODUCING SIGNAL
Tsi
Bsi
Tlj+1
Tlj+3
Tlj+2
Tlj+4

FIG. 30

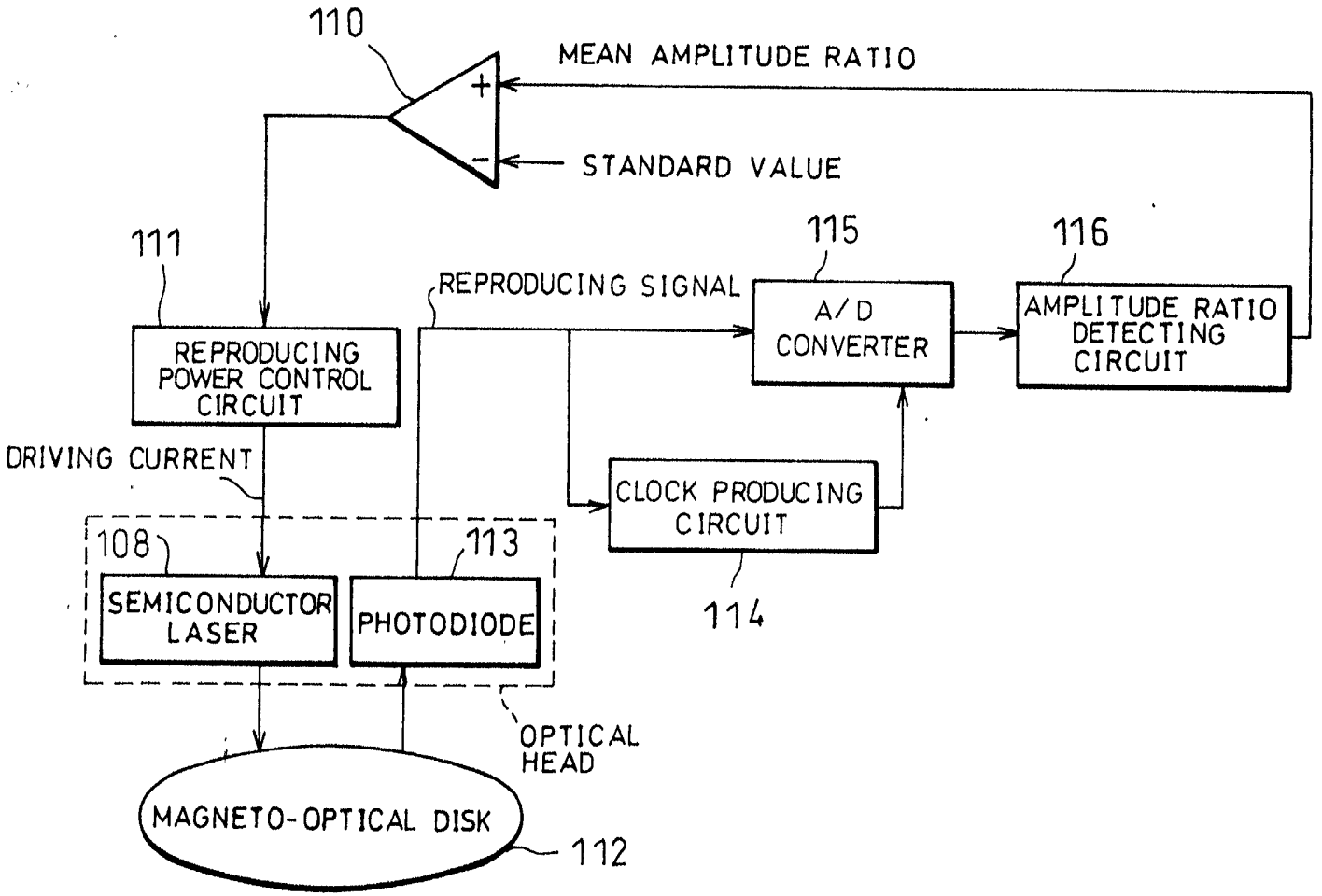

110
MEAN AMPLITUDE RATIO
+
−
STANDARD VALUE
111
115
116
REPRODUCING SIGNAL
A/D CONVERTER
AMPLITUDE RATIO DETECTING CIRCUIT
REPRODUCING POWER CONTROL CIRCUIT
DRIVING CURRENT
CLOCK PRODUCING CIRCUIT
108
113
SEMICONDUCTOR LASER
PHOTODIODE
114
OPTICAL HEAD
MAGNETO-OPTICAL DISK
112

FIG. 31

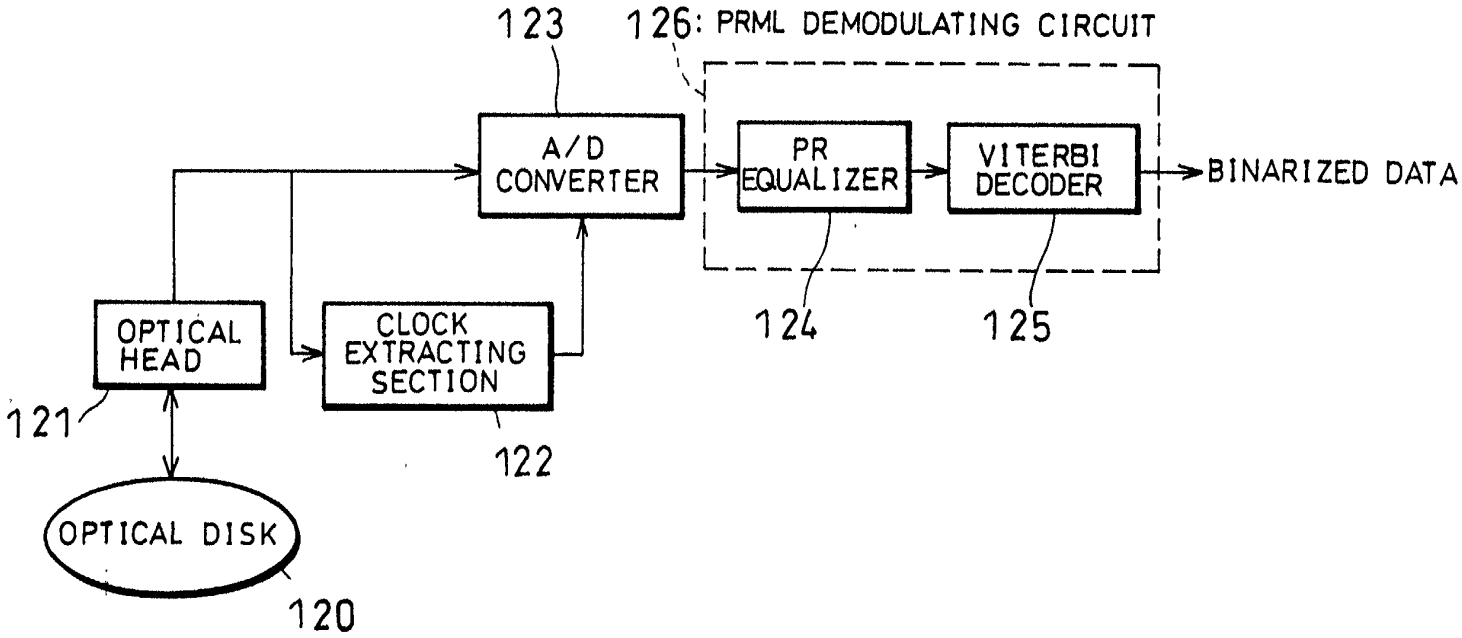
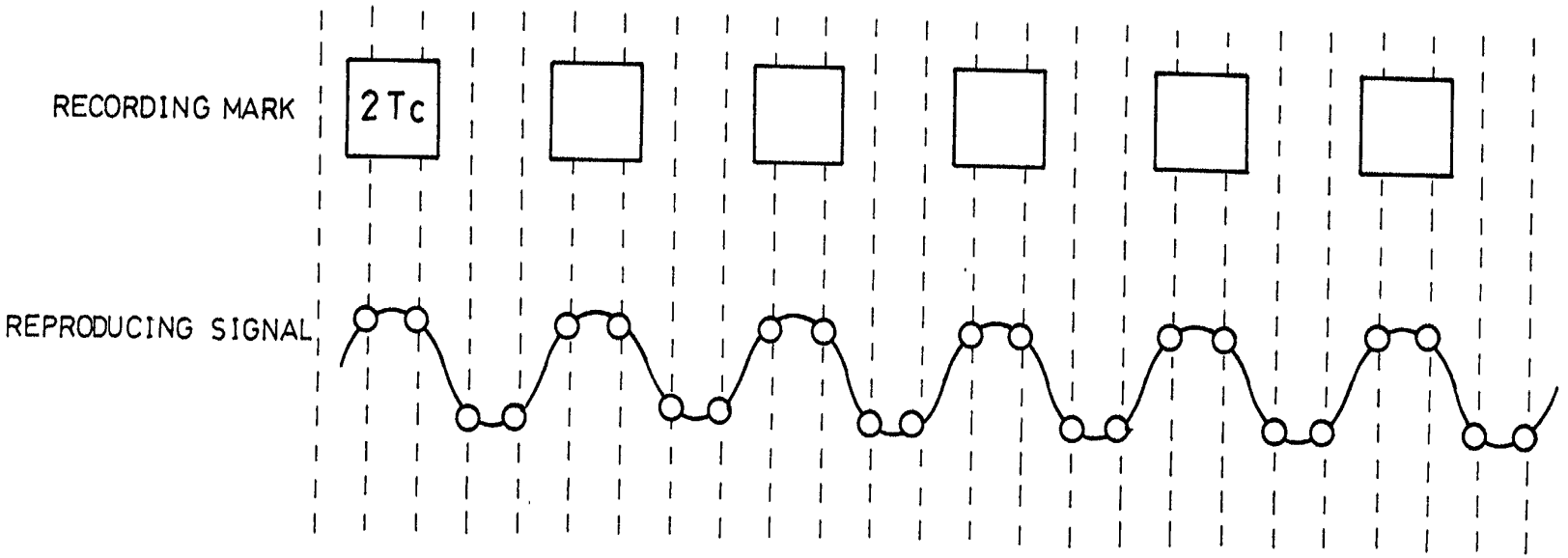

123
126: PRML DEMODULATING CIRCUIT
A/D CONVERTER
PR EQUALIZER
VITERBI DECODER
BINARIZED DATA
OPTICAL HEAD
CLOCK EXTRACTING SECTION
124
125
121
122
OPTICAL DISK
120

FIG. 32



○ : SAMPLING POINT IN PR(1,2,1)ML DETECTION

FIG. 33

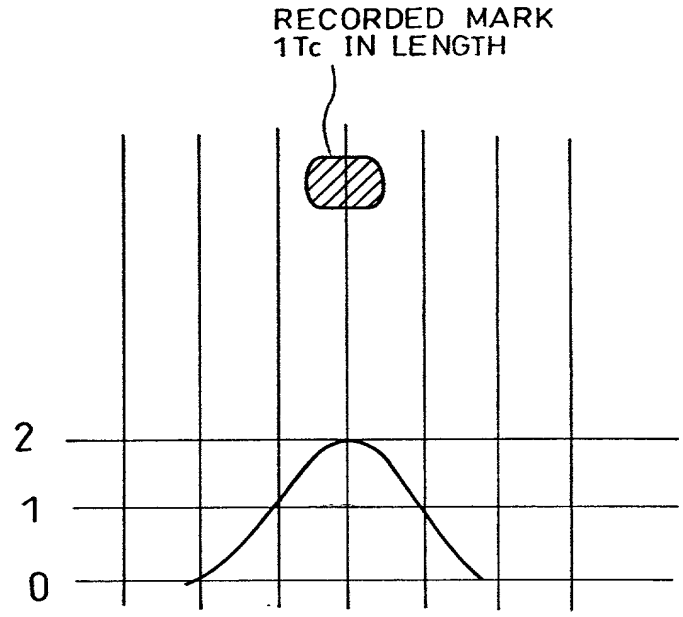
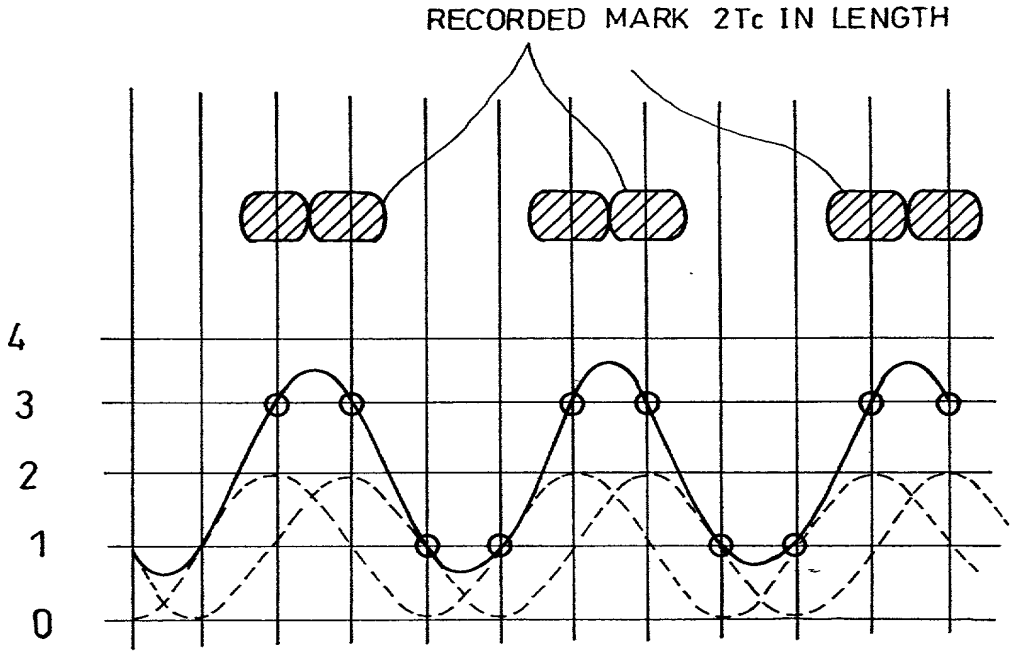

RECORDED MARK
1Tc IN LENGTH
2
1
0

FIG. 34


RECORDED MARK 2Tc IN LENGTH
4
3
2
1
0